

CLAIMS

What is claimed is:

1. A method of managing a network, said method comprising:
 - 5 a) receiving a packet at a first port in said network, wherein;
 - b) determining if an address associated with said packet is authorized for said first port; and
 - c) forwarding said packet if said address is authorized.
- 10 2. The method of Claim 1, further comprising:
 - d) dropping said packet if said address is not authorized.
3. The method of Claim 1, wherein a) comprises receiving said packet from a device coupled to said first port, said first port being a switch port, and
15 wherein there is a one-to-one mapping between ports of devices in said network and ports of switches in said network.
4. The method of Claim 1, wherein c) comprises forwarding said packet to a device if said address is authorized for said first port, said first port coupled to
20 said device, and wherein said network comprises a virtually-wired switching fabric.
5. The method of Claim 1, further comprising:
 - d) comparing a set of learned addresses against a set of expected
25 addresses, said learned addresses comprising addresses associated with

packets received at a second port, said expected addresses derived from an expected configuration of said network.

5 6. The method of Claim 5 wherein said second port couples two switches in a virtually-wired switching fabric.

7. The method of Claim 6, further comprising:

10 e) tracing a topology of said network to find a third port where an unexpected address entered said virtually-wired switching fabric.

8. The method of Claim 7, further comprising:

f) taking corrective action at said third port, said third port coupled to a device.

15 9. The method of Claim 8, wherein f) comprises disabling said third port.

10. The method of Claim 1, further comprising:

d) determining changes in physical topology of said network.

20 11. The method of Claim 10 wherein d) comprises comparing a physical description of said network with a stored physical description of said network.

12. The method of Claim 1 wherein said address is a media access control (MAC) address.

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13. A computer-readable medium having stored thereon a program, which when run on a processor, performs a method of managing a network, said method comprising:

5 a) comparing addresses associated with packets received at a first port in said network with expected addresses for said first port to determine unexpected addresses; and

b) locating a second port in said network that is a source of an unexpected address if said unexpected address is detected.

10 14. The computer-readable medium of Claim 13 wherein said network is a virtually-wired switching network and said first port couples switches in said network and said second port is coupled to a host device.

15 15. The computer-readable medium of Claim 13, wherein b) of said method comprises tracing a topology of said network to determine said second port, wherein said network comprises a virtually-wired switching fabric and said second port is at the edge of said fabric.

20 16. The computer-readable medium of Claim 15, wherein said method further comprises:

c) taking corrective action at said second port, wherein said second port is coupled to a host device.

25 17. The computer-readable medium of Claim 15, wherein said method further comprises:

c) disabling said second port, wherein said network is a virtually-wired switching fabric and said second port is at the edge of said fabric.

18. The computer-readable medium of Claim 13 wherein a) of said method
5 comprises reading a bridge table to determine learned addresses at said first port.

19. The computer-readable medium of Claim 13 wherein a) of said method
is repeated for each interconnect port in said network, wherein said network
10 comprises a plurality of switches.

20. The computer-readable medium of Claim 13, wherein said method
further comprises:

c) determining changes in physical topology of said network.
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21. The computer-readable medium of Claim 20 wherein c) of said method
comprises comparing a physical description of said network with a stored
physical description of said network.

20 22. A method of managing a network, said method comprising:

a) configuring a switch in said network to forward a packet received at a
first port if an address associated with said packet is authorized for said first
port;

b) forwarding said packet if said address is authorized; and

c) comparing a set of learned addresses against a set of expected addresses, said learned addresses comprising addresses associated with packets processed at a second port, said expected addresses derived from an expected configuration of said network.

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23. The method of Claim 22, further comprising:

d) tracing a topology of said network to find a third port where an unexpected address entered said network, said third port coupled to a device having a media access control (MAC address) that is said unexpected address.

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24. The method of Claim 23, further comprising:

e) disabling said third port, wherein said network is a virtually-wired switching fabric and said third port is at the edge of said fabric.

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25. The method of Claim 22, further comprising:

d) dropping said packet if said address is not authorized.

26. The method of Claim 22, wherein a) comprises programming a switch in said network to recognize authorized addresses for said first port.

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27. The method of Claim 22, wherein b) further comprises forwarding said packet to a host device if said address is authorized for said first port, said first port coupled to said host device.

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28. The method of Claim 22, further comprising:

d) determining changes in physical topology of said network.

29. The method Claim 28 wherein d) comprises comparing a physical description of said network with a stored physical description of said network.

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30. The method of Claim 29 wherein said address is a media access control (MAC) address and wherein said network comprises a virtually-wired switching fabric.

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31. A network comprising:
a plurality switches;
said switches interconnected and configured to control communication between a plurality of devices coupled to said network; and
a first switch of said plurality configured to detect a packet having an
15 unauthorized media access control (MAC) address.

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32. The network of Claim 31, wherein:
said first switch is further configured to forward said packet if said address is authorized.

33. The network of Claim 31, wherein:
said first switch is further configured to drop said packet if said address is not authorized.

34. The network of Claim 31, wherein there is a one-to-one mapping between ports of said switches and ports of said devices.

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